

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference B03/0204PC	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2004/014603	International filing date (day/month/year) 22.12.2004	Priority date (day/month/year) 22.12.2003	
International Patent Classification (IPC) or national classification and IPC G01N21/05			
Applicant BASF COATINGS AG			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>

<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/014603

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))
 publication of the international application (Rule 12.4)
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished
 the description:

pages 1-4, 6-8, 12-29, 31, 46 as originally filed/furnished
 pages* 5, 9-11, 30 received by this Authority on 20.10.2005 with letter of 18.10.2005
 pages* _____ received by this Authority on _____

the claims:

nos. _____ as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19 20.10.2005 with letter
 nos.* 1-23 received by this Authority on of 18.10.2005
 nos.* _____ received by this Authority on _____

the drawings:

sheets 1/16-16/16 as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/014603Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims <u>2, 4, 7-23</u>	YES
	Claims <u>1, 3, 5, 6</u>	NO
Inventive step (IS)	Claims <u>2, 4</u>	YES
	Claims <u>1, 3, 5-23</u>	NO
Industrial applicability (IA)	Claims <u>1-23</u>	YES
	Claims _____	NO

2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

D1: DE 2445 148 A
 D4: WO 02/075285 A
 D5: DE 101 49 780 A

1. The subject matter of independent claim 1 is a flow cell for the orientation of non-isometric particles in a liquid sample, "wherein a fluid element having the measurements a, b, c is reshaped to form a fluid element having the measurements a x n, b / (n x m), c x m in an expansion zone, a being the width, b being the height and c being the length of the fluid element, and n and m being constants dependent on the geometry of the flow cell and representing positive numbers $\geq 1''$.

According to page 6, lines 7-8 and page 7, lines 28-29 of the description of the present application, the invention is based on the fact that the fluid element is expanded in two relatively orthogonal directions. The scope of

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/014603

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<p>protection of claim 1 is, however, broader owing to the statement $m, n \geq 1$ and also includes flow cells in which the fluid element is expanded in only one direction, for example, for $n = 1$ and $m > 1$. In this case, the fluid element a, b, c is reshaped into $a' = a, b' = b / m, c' = c \times m$, i.e. the fluid element is expanded in the direction of flow (c), neither compressed nor expanded in a first axis (a) orthogonal to the direction of flow and compressed in a second axis (b) orthogonal to the first axis and the direction of flow. A flow cell of this type is, however, known from D1.</p> <p>Figures 1 and 2 of D1 show a flow cell, the width (z-axis) of which, defined by wall 17, remains the same in the direction of flow, whereas the height (y-axis) of which, defined by the exponentially narrowing wall 18, decreases in the direction of flow. This design results in an inversely proportional expansion of a volume element in the direction of flow (x-axis). Non-isometric particles, such as flake-shaped particles (see page 4, line 1), are oriented in a liquid flowing through the flow cell in a laminar manner in such a way that their maximum cross-section surface lies in the plane extending through the x-axis and the z-axis (see page 5, second paragraph), i.e. the particles are oriented in relation to the x-axis and the z-axis, which means an orientation in two axes.</p>	

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/014603

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

The subject matter of claim 1 and, *mutatis mutandis*, of claims 3 and 5 is therefore not novel (PCT Article 33(2)).

D1 also discloses a photometric measuring device according to claim 6 (see figure 1: light source 22, photocell 24).

2. The remission sensors according to claims 7 to 19 and 23 and the method according to claims 20 to 22 are obvious from D1 in combination with D4 and/or D5 (see passages cited in the search report) (PCT Article 33(3)).
3. None of the documents cited in the search report discloses or suggests a flow cell in which the fluid elements are (uniformly) expanded in two relatively orthogonal directions.

The flow cell according to claim 2 having $m = n (> 1$, since otherwise no reshaping of the fluid element would take place) and, *mutatis mutandis*, the method according to claim 4 are therefore considered to be novel and inventive.

Further comments

1. The passage "flow cross-section A, C reshaped to $n \times A/C \times m$ " in line 10 on page 9 of the description is unclear. In light of figure 2, which suggests that the flow cross-section is defined by axes a and b, and page 9, line 11, the statement "flow

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/014603

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

cross-section A, B is reshaped to A x n, B / (m x n)" seems to be more consistent.

2. Contrary to PCT Rule 5.1(a)(ii), the description does not cite D1 or indicate the relevant prior art disclosed therein.

3. The description fails to briefly describe the figures (PCT Rule 5.1(a)(iv)).